

- 10 -

CLAIMS

1. Microwave device for interstitial, percutaneous, laparoscopic, endoscopic and intra-operation applications in medicine and surgery, in species for applications of acute hypertermia in oncology, comprising:

- an inner conductor,
- a dielectric layer that covers said inner conductor for all its length,
- an external conductor that covers coaxially said dielectric layer except from an end portion, forming together with said dielectric layer and said inner conductor a co-axial antenna,
- a tubular application device for coaxially guiding said antenna in a target tissue along an introduction direction,

**characterised in that** said application device has in the end portion a side opening and a chute guide, said chute guide guiding said antenna through said side opening causing it to enter the target tissue along an actuation direction that forms an angle  $\alpha$  with respect to said application device.

2. Microwave device for interstitial applications, according to claim 1, wherein said application device is a metal needle or a plastic catheter which, in the end portion, has a stiff blocking material, for example metal, having a tapered inner face forming said chute guide and a sharp external face.

3. Microwave device for interstitial applications, according to claim 1, wherein said application device is a hollow needle, blind in the end portion and having said side opening, wherein at said side opening a gradually increasing thickness is provided in order to form said chute guide.

- 11 -

4. Microwave device for interstitial applications, according to claim 1, wherein for the introduction of the antenna in the target tissue along the actuation direction a metal flexible mandrel is provided sliding  
5 in said application device before introducing the antenna and suitable for protruding from it through said side opening for making an inlet hole in the tissue to treat according said actuation direction.